

Name _____

Keystone Warm-ups

Chapter 12: DNA and Chromosomes

Copy down all 4 answer choices for the daily warm-up from the board in the space below its question. Choose the best answer by circling its letter. Then, after we go over it, write the correct answer in the block provided on the front of the packet.

1	<input type="text"/>	2	<input type="text"/>	3	<input type="text"/>	4	<input type="text"/>	5	<input type="text"/>
6	<input type="text"/>	7	<input type="text"/>	8	<input type="text"/>				

1. Which nuclear process is represented below?

A DNA molecule → The two strands of → Molecular bases → Two identical DNA
untwists. DNA separate. pair up. molecules are produced.

(A) recombination

(B) replication

(C) fertilization

(D) mutation

2. The instructions for the traits of an organism are coded in the arrangement of

(A) glucose units in carbohydrate molecules

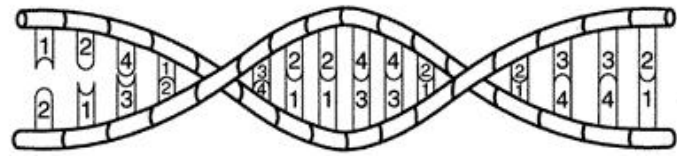
(B) bases in DNA in the nucleus

(C) fat molecules in the cell membrane

(D) energy-rich bonds in starch molecules

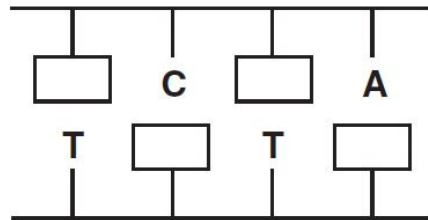
3. The diagram below represents a section of the molecule that carries genetic information.

The pattern of numbers represents



- (A) a sequence of paired bases
- (B) the order of proteins in a gene
- (C) fold of an amino acid
- (D) positions of gene mutations

4. The diagram below represents an incomplete section of a DNA molecule. The boxes represent unidentified bases.



When the boxes are filled in, the total number of bases represented by the letter A (both inside and outside the boxes) will be

- (A) 1
- (B) 2
- (C) 3
- (D) 4

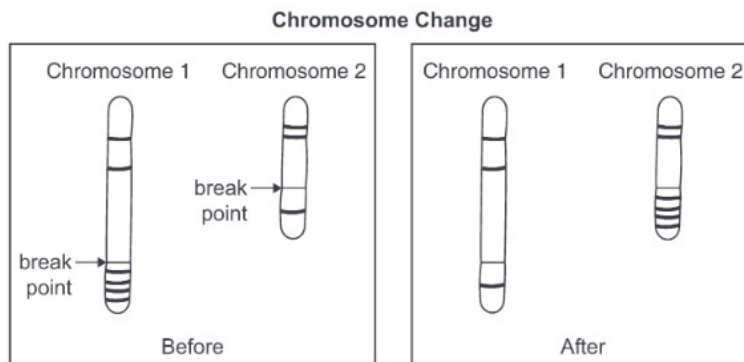
5. If 15% of a DNA sample is made up of thymine, T, what percentage of the sample is made up of cytosine, C?

- (A) 35%
- (B) 15%
- (C) 70%
- (D) 85%

6. Which process helps to preserve the genetic information stored in DNA during DNA replication?

- (A) the replacement of nitrogen base thymine with uracil
- (B) enzymes quickly linking nitrogen bases with hydrogen bonds
- (C) the synthesis of unique sugar and phosphate molecules for each nucleotide
- (D) nucleotides lining up along the template strand according to base pairing rules

7. Which type of change in chromosome composition is illustrated in the diagram below?



- (A) deletion
- (B) insertion
- (C) inversion
- (D) translocation

8. Down syndrome is a genetic disorder caused by the presence of an extra chromosome in the body cells of humans. This extra chromosome occurs in a gamete as a result of

- (A) an error in the process of cloning
- (B) an error in meiotic cell division
- (C) a gene mutation
- (D) replication of a single chromosome during mitosis